The radiological picture of acute Friedländer's pneumonia may resemble that of ordinary pneumonic consolidation, but, as was pointed out by Bullowa *et al.* (1937), the most striking finding initially is the density of the shadow, which is usually homogeneous and may be suggestive of fluid. A bronchopneumonic phase was described by Kornblum (1928). This was not seen in these cases. After a day or two one notices less-opaque areas due to the formation of abscesses. It is sometimes found that there is bulging or sagging of the interlobar septa, and this is well illustrated in the recent paper by Kirby and Coleman (1951), who reported it in half of their 11 cases. As the chronic stage is reached fibrosis makes its appearance, combined with a honeycomb effect due to small cavities.

Keefer *et al.* (1946), in their clinical trials, found streptomycin effective if given early in lung infections due to Friedländer's bacillus. Chloramphenicol and aureomycin have also produced good results in small series. We found records of 38 cases treated with streptomycin, chloramphenicol, aureomycin, or combinations of these antibiotics. In these the mortality rate was 37%. We were impressed by the rapid downhill course of Case 4, who at 49 years was the youngest of the series. Rapid bacteriological diagnosis is still important in pneumonia. Our routine is to collect sputum at the initial clinical examination. Some of this is stained by Gram's method. If Gram-negative bacilli are found to be the predominant organism, streptomycin, 1 g. eight-hourly, is given pending the result of sputum culture. No cases have been seen since aureomycin became freely available. We intend to substitute it for streptomycin.

Summary

Six cases of Friedländer's pneumonia have been seen. Short clinical histories of these are given. They represented 2.5% of all cases of pneumonia admitted to the two medical units of a general hospital. The clinical picture and radiological findings are described.

This pneumonia is almost entirely a disease of elderly men. Essentially it differs from pneumococcal lobar pneumonia in that there is destruction of the lung stroma and no response to penicillin. Clinically the patient seems gravely ill. About 25% have a characteristic sputum—a sticky homogeneous emulsion of blood and mucus. Cavitation can occur in the lung within a few days.

Before the introduction of antibiotics the mortality was about 80%. The importance of early bacteriological diagnosis is stressed.

Streptomycin has reduced the death rate, but the prognosis remains serious, as about one-third of the cases recorded in the literature died in spite of antibiotics. Only one of the treated cases in this series died. Two of the patients were left with multiple small thin-walled cavities in the lungs. They nevertheless were able to return to strenuous work.

The differential diagnosis from tuberculous cavities is most important, and depends on: (i) a history of pneumonia; (ii) often no symptoms; (iii) cavities smaller and more numerous; (iv) failure to culture tubercle bacilli from the sputum.

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CIRCUMCISION IN A NATIONAL SAMPLE OF 4-YEAR-OLD CHILDREN

BY

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This brief note gives some figures showing the frequency of circumcision, the age at which it is performed, and the immediate complications of the operation. These figures are derived from a sample of children drawn from all social classes and from all parts of England, Wales, and Scotland, and they supply the answers to some of the questions raised by Gairdner (1949). His article was the stimulus for the present study.

For the last five years the Joint Committee of the Institute of Child Health (University of London), the Society of Medical Officers of Health, and the Population Investigation Committee,* with the help of health departments throughout the country, have been following the growth, health, and development of 5,380 children. These children are a national sample of all legitimate births in the first week of March, 1946. For the purpose of the survey they have been visited on three occasions—when aged 8 weeks, 2 years, and 4 years. On each occasion health visitors recorded a wide range of information of medical and social interest. Before the last inquiry, which took place in 1950, one of us (D. MacC.) suggested that the subject of circumcision should be studied. This study was limited to questions of fact, and no attempt was made to uncover the reasons for circumcision. Each mother was asked whether her child had been circumcised and, if so, his age when operated upon and details of any complications that ensued. We feel that this information, though scanty, will be of interest because it is based on a representative national sample of young children.

Numbers Under Survey

This follow-up survey has recently been described in some detail (Douglas, 1951) and it is enough to note here that of 5,380 children born in the first week of March, 1946, 4,906 were still living in this country in 1950.† Of these children 96% are still enrolled in the survey, and enough is known of the early history and home conditions of the remaining 201, who are untraced or have dropped out of the survey for other reasons, to show that the sample is in no way biased by their loss.

Among survivors still living in this country in 1950 there were 2,578 males, and the questions on circumcision were completed for 2,428 of them. The proportion of these 2,428 infants who were circumcised in different age groups up to 4 years is shown in Table I. The first three rows of this table show the difference in incidence between the social classes; the last row shows the position for the whole population. Of these children 24% were circumcised by the age of 4 years 3 months. This figure agrees well with the estimate made by Gairdner for the country as a whole.

*The chairman of the committee is Professor James Young, the vice-chairman Professor A. A. Moncrieff, and the secretary Professor D. V. Glass. Funds for the inquiry have been generously supplied by the Nuffield Foundation.

†229 had died and 245 had left the country with their families. This is a natural decrease which is unavoidable.

TABLE I.—*Proportion of Infants Circumcised During Different Age Periods from Birth to 4 Years*

Social Group	% Undergoing Circumcision in the Following Age Groups				Total % Circumcised by the Age of 4½ Years	No. of Infants at Risk
	First month	2–3 mths	4–6 mths	7–51 mths		
Professional and salaried ..	23·9	6·3	3·4	5·2	38·8	443
Black-coated ..	12·9	5·8	3·2	5·8	27·7	634
Manual workers and miscellaneous	7·2	5·2	3·1	6·4	21·9	1,351
Weighted average for population*	9·3	5·4	3·3	6·1	24·1	—

Probable Reasons for Circumcision

More than a third of circumcisions are performed in the first months of life at a time when faults or diseases of the prepuce itself are practically non-existent. We can assume that when circumcision is done at this age it is for one or more of the following reasons: (*a*) custom (religious, or to conform with the views of parents or grandparents); (*b*) policy ("cleanliness," or prophylaxis against certain diseases); (*c*) advice (from doctor, midwife, or other person). Failure of the foreskin to retract is the usual reason for recommending circumcision at any age if reason there must be. But, as Gairdner (1949) has shown, the two inner surfaces of the prepuce normally may not completely separate to form a preputial space until after the age of 3 years. Attempts to retract the foreskin while still at this stage of so-called "adherence" give rise to the impression of phimosis—a false impression, yet one which is usually taken as an indication for the operation.

It is during the first month, when there is no medical necessity for circumcision, that social-class differences in the incidence of this operation are found. At later ages the incidence is similar in all classes. The figures in Table I, while they have the advantage of showing the proportion circumcised at successive ages, give a rather distorted picture of social-class differences after the first month because they are based on all male children in the sample and not on the proportion of children still uncircumcised at the beginning of each age period.

After making this adjustment the following conclusions are reached: (*a*) during the first month there are highly significant differences between the classes ($\chi^2=91.51$, n=2, $P<0.01$); (*b*) between the second and the sixth months the same tendency is observed, but could well be a chance effect; (*c*) after the sixth month there is a very close agreement between the three classes. The proportion circumcised during this third period (expressed as a percentage of those uncircumcised at the beginning of it) is 7.8% in the professional class, 7.5% in the black-coated class, and 7.5% in the manual-working and other classes ($\chi^2=0.036$, n=2, $0.99>P>0.98$). This very low value of χ^2 suggests that after the age of 6 months the causes of circumcision are the same in each class. There is certainly no evidence that, by early circumcisions, children who would otherwise have needed the operation at a later age, when it is more distressing, have been spared it.

No question was asked on the reasons for circumcision. It has been our experience that this type of question provokes stereotyped answers which do not indicate the true reasons. There are, however, marked social-class differences in attitude to the health services, which may be of significance in this context. Women in the salaried and professional classes tend to follow medical advice and make full use of the services provided. When they attend antenatal clinics they attend earlier in pregnancy and more frequently than poorer women do. When they take their children to infant welfare centres they take them more regularly, and they themselves are more likely to attend for post-natal examinations. Lastly, their children are more likely to be vaccinated, immunized, and have their tonsils removed. It therefore seems probable that they are following the advice of doctors or nurses when they have their children circumcised. This view is the more likely because it is not unusual for obstetricians and family doctors to charge an inclusive fee for maternity care and to circumcise the child as part of the service they provide if the mother desires it. Thus we have the inducement of free service and the implication that circumcision is a routine and desirable operation.

*When calculating the figures for the whole population a correction has been made for the fact that, whereas all children in the professional and salaried, black-coated, and agricultural-worker classes who were born in the first week of March, 1946, were enrolled in the survey, only one out of every four children in the manual-working classes was enrolled (cf. Douglas, 1951). This correction is made by giving the former classes a weight of unity and the latter a weight of four.

Incidence of Early Circumcision

It is of interest to note in Table II that, whereas in the professional and salaried classes the incidence of early circumcision is highest among later-born children, in the working classes it is highest among the first-born. It may be that the custom of circumcision is better-established among the well-to-do and/or that the working-class woman with a first baby is more open to suggestion than one who has older children. In no class is there either a consistent rise or a consistent fall in the proportion of circumcisions with increasing age of parent.

TABLE II.—*Proportion of Infants Circumcised During the First Month of Life by Social Class and Place in the Family*

Social Class	Place in Family		
	First-born	Second- or Third-born	Later-born
Professional and salaried..	19·8% (192)	25·4% (228)	43·5% (23)
Black-coated	13·6% (302)	13·5% (275)	7·0% (57)
Manual workers and miscellaneous	11·0% (454)	6·4% (613)	2·8% (284)

Figures in parentheses give the numbers exposed to the risk of circumcision.

Complications.—All complications of circumcision were noted. Thirty-two infants (of whom seven were admitted to hospital) suffered major or minor complications, an incidence of 5% of the circumcised children. The following is a list of complications: second operation required, 7; haemorrhage, 9; sepsis of penis, 8; sepsis elsewhere, 2; slow healing, 2; severe oedema, 1; adhesions, 1; retention of urine, 1; shock, 1.

Summary

This paper discusses the incidence of circumcision in a national sample of 2,428 4-year-old children, 24% of whom had been circumcised by this age.

More than a third of these circumcisions were performed in the first month of life, at a time when faults or diseases of the prepuce itself are practically non-existent. It is only during this period that social-class differences in circumcision are found.

The operation of circumcision is more often performed among the well-to-do than among the manual workers. In the former classes the incidence of the operation is highest among later-born children, whereas in the latter it is highest among the first-born.

We wish to thank the members of the Joint Committee for their help; the medical officers of health and the health visitors whose generous co-operation made this survey possible; and the mothers in all parts of the country who willingly answered numerous and detailed questions on their children's health.

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